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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,126	04/23/2001	John Charles Debraal	0011-0368P	1628

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EXAMINER	
TUGBANG, ANTHONY D	
ART UNIT	**PAPER NUMBER**
3729	5

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/839,126	DEBRAAL	
	Examiner	Art Unit	
	A. Dexter Tugbang	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-7,9,10 and 25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-7,9,10 and 25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. The applicants' amendment filed 7/23/03 (Paper No. 4) has been fully considered and made of record.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 1, 3-5, 9 and 10 are rejected under 35 U.S.C. 103(a) as being obvious over Roth 5,826,329 in view of Japanese Patent Publication JP 2-74095, referred to hereinafter as JP'095.

Roth discloses a method of forming electrically conductive pathways comprising: providing a thermal transfer ribbon 46 (in Fig. 3); moving the thermal transfer ribbon past a heat source (thermal print head 42); engaging the thermal transfer ribbon with a receiver substrate 14 as the thermal transfer ribbon moves past the heat source 42 with the receiver substrate utilized as a film; selectively heating portions of the thermal transfer ribbon with the heat source (see col. 4, lines 3-10); and transferring a composition from the thermal transfer ribbon to the receiver substrate or the film, the selective heating enabling a desired pattern of the composition to be transferred to the receiver substrate with the composition being transferred from the thermal transfer ribbon 46 being an electrically conductive material 12 (see sequence of Figures 5 and 6).

Regarding Claim 3, the composition (discussed at col. 3, lines 48-65) is considered to be an electrically conductive precursor, which becomes conductive upon application of heat from the heat source 42.

Regarding Claim 5, the thermal transfer ribbon material discussed by Roth (at col. 3, lines 5+) can be selected such that it would be fail to have magnetic particles.

Regarding Claim 9, Roth further teaches using a polymeric film (resins) as the transfer ribbon, coating the transfer ribbon with the conductive material with a wax, and using metallic inks as the composition of the thermal transfer ribbon (see col. 3, lines 9+).

Roth teaches substantially all of the limitations of the claimed manufacturing method except that the receiver substrate is flexible such that it can be called a "flexible receiver substrate".

JP'095 teaches the use of a flexible receiver substrate 3 (in Figs. 1 and 2) to thermally transfer a composition of electrically conductive material 5. The benefits of having a flexible receiver substrate save manufacturing steps by eliminating the use of any stencils and any dispensing of the drying of the electrically conductive material (see Purpose).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the receiver substrate of Roth by making the receiver substrate flexible, as taught by JP'095, to positively save manufacturing steps in the overall process.

Regarding Claim 10, it is noted that the specific compositions recited for the wax and binders would have been an obvious matter of design choice, since the applicant has not disclosed that the claimed compositions (recited in Claim 10) solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the composition of wax and binders taught by Roth.

4. Claims 6, 7 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roth in view of JP'095, as applied to claims 1 and 3 above, and further in view of Mosher 5,973,600.

Roth, as modified by JP'095, teaches the claimed manufacturing method as previously discussed. The modified Roth method does not teach combining the receiver substrate with a microchip to form an antenna.

Regarding Claims 6 and 25, Mosher teaches a transfer process of combining a receiver substrate with a microchip 94 to form an antenna (spiral pattern 104).

Regarding Claim 7, Mosher further teaches that the antenna is used as a radio frequency tag in which the microchip is affixed to the receiver substrate (see col. 6, lines 16+).

The benefits of the Mosher transfer process by the inclusion of the microchip and antenna on the receiver substrate, allows a manufacturing transfer process to form a tremendous amount of products that have various utility, such as bar code readers, etc. (see col. 1, lines 44+). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Roth by including the microchip and antenna, as taught by the transfer process of Mosher, to advantageously form a multitude of products having various utility.

Response to Arguments

5. Applicant's arguments filed 7/23/03 (Paper No. 4) have been fully considered but they are not persuasive.

In regards to the merits of Roth, the applicant contends that Roth does not teach a method of forming a radio frequency tag on paper or film, and that the composition being transferred from the transfer ribbon is not an electrically conductive precursor.

The examiner most respectfully disagrees for the following reasons. First, the receiver substrate 14 of Roth by itself can be broadly read as a "film", thus it can be said to be used as a film within the claimed recited steps. Second, nowhere in Claims 1, 3, 4, 5, 9 and 10 is the recitation of "radio frequency tag". As Roth was applied to the merits of Claims 1, 3-5, 9 and 10, whether Roth utilizes a "radio frequency tag" or not is irrelevant to the extent that these claims have no such recitation. It appears that the applicant is arguing more specifically than that which is claimed with respect to Claims 1, 3-5, 9 and 10.

With respect to the electrically conductive "precursor", the composition of the electrically conductive material 12 is considered to be a "precursor" prior to any heat being applied to the composition 12 or prior to the composition 12 passing through the heat source 42. After the composition 12 passes the heat source, the composition 12 is transitioned from a precursor to an electrically conductive material by virtue of its final product. Therefore, the examiner's position is that Roth fully satisfies the limitations of the precursor as recited in Claim 3. Perhaps further limitations directed to the "precursor" may avoid Roth.

Regarding Claims 6, 7 and 25, the arguments presented in the amendment (Paper No. 4) are now considered to by moot in view of the new grounds of rejection set forth above.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 9:00 am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3590 for regular communications and 703-305-3588 for After Final communications.

A. Dexter Tugbang
Primary Examiner
Art Unit 3729

October 1, 2003